Software Architecture | Duration: 2 Days

Program Outline & Topics

Course Outline

Software Architecture Fundamentals

- Architectural Elements
- Architectural Descriptions
- Architectural Views & Viewpoints
- Architectural Perspectives
- Interrelationships between the core concepts
- Role of a Software Architect
- Other Stakeholders
- Benefits of Architecting

Case Study

Introduction to the case study – to be used and referred to throughout the training to make it more practical

Process of Software Architecture

- Agreeing on Scope & Constraints – Requirements and Constraints management
- Identifying and engaging stakeholders
- Identifying and using architecturally significant scenarios
- Using architectural styles and patterns
- Producing architectural models
- Documenting the architecture

Choice of architecture

- Influencing factors: Requirements, Technical Environment, Architect's experience
- Quality Attributes: (Non-functional requirements)
- Availability, Modifiability, Performance, Scalability, Security, Testability, Usability
- Design considerations / Tactics to achieve the Quality Attributes

Validation / Evaluation of Architectures

Benefits of architectural validation
Validation methods
Scenario (Architecturally significant use cases) based methods
- Architecture Trade off Analysis Method
Quantitative methods - Cost-Benefit Analysis Method
Technical decision making related to multiple deployment scenarios
Measuring success of architecture

Architectural styles/patterns

Design Principles and mapping to Architectural Patterns
Multi-layer pattern,
Client-Server,
Broker Architecture Pattern
Transaction Processing Pattern
Pipe- and-Filter pattern
MDA, SOA concepts